THE PROGRESSIVE ARITHMETIC, PART I

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The Progressive Arithmetic, Part I by Wilbur F. Nichols

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WILBUR F. NICHOLS

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PROGRESSIVE ARITHMETIC

PART I

BY

WILBUR F. NICHOLS, A. M.

Supervising Principal of Eaton District, New Haven, Conn.
"Author of Graded Lessons in Arithmetic," "Arithmetical Problems,"
"Topics in Geography."

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PREFACE.

THIS book is the first one in a series of three books in arithmetic prepared to meet the requirements of those schools where a three book series is preferred.

The aim has been to prepare a book for beginners.

The exercises and examples are made up largely of concrete numbers, and relate to things with which children are familiar. An abundance of abstract work, however, is given that the pupil may acquire accuracy and facility in all the combinations.

As will be seen the pupil is expected to measure distances, to weigh substances, and to learn about forms, areas, and lines; and by his work in measuring, learn to recognize the measures as wholes, and to discover the relations existing between them.

One or more lessons are given to the developing of a new topic, and the following lessons are so arranged as to give the pupils practice in applying the new topics previously learned. This constant review will be very beneficial.

Realizing that the highest function of arithmetic is to develop thought power, the author has aimed to accomplish this by many concrete problems, and by the method of making only statements of some problems, leaving the

pupils to determine first, *what* can be found, and then *how* to find it.

A large number of oral examples is given. Rapid oral work with problems, such as relate to every-day life, should be demanded in every grade within reasonable limits.

Great care has been taken in grading the problems, yet in all probability a few will be found too difficult for some pupils. In that case the teacher should omit such problems, knowing that the principle will be taken up again.

In the making of this book the author has drawn largely from his *Graded Lessons in Arithmetic*, which furnishes a book for each school year, and which has been received with so much favor.

This book contains a very full Table of Contents, a familiarity with which will enable the teacher to select an abundance of problems relating to all subjects treated.

W. F. NICHOLS.

NEW HAVEN, CONN., Feb. 1, 1903.

SUGGESTIONS TO THE TEACHER.

THE majority of pupils on entering school are more or less familiar with the numbers from one to five. Many of them can count accurately ten objects, and understand the expression one half. At the outset the teacher should find out how much each pupil already knows, and should begin at that point. The first few lessons are intended for a review, or for those who have no idea of number when they enter school.

The number work for the first year should be mainly oral. It is a mistake to introduce pupils too early to the symbols of number. Unfortunately this is too frequently done, in order to provide some busy work for the seat. In that case care should be taken to see that the pupils do not confound the symbol with the thing symbolized. In the first pages of this book we shall use the symbol for brevity in cases where we expect the teacher will use the spoken word only.

Teach the meaning of the words vertical, horizontal, parallel. In all construction work allow the pupils to use the ruler *at first*. As soon as possible train them to draw all lines accurately without a ruler.

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